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JC01 Rec'd PCT/PTO 20 DEC 2000

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December 20, 2000

BOX PCT

Assistant Commissioner for Patents
 Washington, D.C. 20231

PCT/FR99/01486
 -filed June 22, 1999

Re: Application of Bernard KRAEUTLER
 A MULTI-FUNCTION LINK BRACKET FOR A GOODS-
 HANDLING DOOR
 Our Ref: Q62381

Dear Sir:

The following documents and fees are submitted herewith in connection with the above application for the purpose of entering the National stage under 35 U.S.C. § 371 and in accordance with Chapter II of the Patent Cooperation Treaty:

- ☐ an executed Declaration and Power of Attorney.
- ☒ an English translation of the International Application.
- ☒ 3 sheets of formal drawing (Figures 1-5).
- ☐ an English translation of Article 19 claim amendments.
- ☒ an English translation of Article 34 amendments (annexes to the IPER).
- ☐ an executed Assignment and PTO 1595 form.
- ☒ a Form PTO-1449 listing the ISR references.
- ☒ a Preliminary Amendment

It is assumed that copies of the International Application, the International Search Report, the International Preliminary Examination Report, and any Articles 19 and 34 amendments as required by § 371(c) will be supplied directly by the International Bureau, but if further copies are needed, the undersigned can easily provide them upon request.

The Government filing fee is calculated as follows:

Total claims	7	-	20	=		x	\$18.00	=	\$0.00
Independent claims	1	-	3	=		x	\$80.00	=	\$0.00
Base Fee									\$860.00
TOTAL FEE									\$860.00

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC

A check for the statutory filing fee of **\$860.00** is attached. You are also directed and authorized to charge or credit any difference or overpayment to Deposit Account No. 19-4880. The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16, 1.17 and 1.492 which may be required during the entire pendency of the application to Deposit Account No. 19-4880. A duplicate copy of this transmittal letter is attached.

Priority is claimed from June 23, 1998 based on French Application No. 98/07890.

Respectfully submitted,



Robert O. Seas, Jr.
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Date: December 20, 2000

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Bernard KRAEUTLER

Appln. No.: PCT/FR99/01486

Group Art Unit:

Filed: December 20, 2000

Examiner:

For: A MULTI-FUNCTION LINK BRACKET FOR A GOODS- HANDLING DOOR

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

IN THE CLAIMS:

Please amend the claims as follows:

Claim 3: line 2, delete "or claim 2".

Claim 4: line 2, delete "or claim 2".

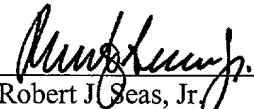
Claim 5: line 1, delete "or 2".

Claim 6: line 1, delete "or 2".

7(amended). A goods-handling door including at least one bracket according to [any one of claims 1, 2, 5, and 6 or obtained by the method according to claim 3 or 4] claim 1.REMARKS

The foregoing amendments are made in order to remove multiple dependencies and avoid the Government surcharge. Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,


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A MULTI-FUNCTION LINK BRACKET FOR A GOODS-HANDLING DOOR

The invention relates to goods-handling doors.

The term "goods-handling doors" is used to designate doors installed in warehouses, factories, stores, sheds, etc. to make communication possible between different volumes or with the outside, and to provide temperature and noise insulation between said volumes or relative to the outside. Such a door makes it possible to close and to open an opening formed in a wall, and it must be capable of being opened and closed rapidly in order to limit the time during which the insulation is no longer provided. It is common for the door to include a panel mounted to move up and down between two uprights. It is also common for the door to be provided with a curtain that can be rolled or folded up at the top of the opening or on either one of the sides of the opening, the curtain generally being a flexible sheet or being made up of hinged panels. A rotary shaft is disposed, for example above the opening, to roll up the curtain, or else straps are provided to raise the curtain. The curtain is generally reinforced by at least one rigid bar whose ends slide with the edges of the curtain in vertical (or optionally horizontal) slideways.

One type of goods-handling door includes two brackets disposed on either side of the door at the top thereof.

An example of such a door is described in EP-0 717 807. That example is shown in accompanying Figure 1, and it is described below with reference thereto. An opening 2 is formed in a wall 1. The door includes a flexible curtain 3 that can be rolled up around a shaft 4 disposed above the opening. Respective brackets are fixed on either side of the top of the opening. In that example, each bracket 10 is L-shaped (10G on the left and 10D on the right), comprising a first branch fixed against the wall and a second branch perpendicular to the first branch. The second branch

102G of the left-hand bracket 10G carries a first seat
103 for a bearing, and the second branch 102D of the
right-hand bracket 10D carries a second seat for a
bearing. The shaft 4 is carried by the two seats. The
5 left-hand bracket carries a seat only, whereas the other
bracket also carries all of the electrical control and
mechanical drive members for the shaft: an electric motor
104, generally with incorporated brake and gearing, an
end-of-stroke stop 105, and various relays and other
10 electrical members 106. The curtain shown can be rolled
up directly onto the shaft 4. -

In that type of door, the brackets serve to fix the
door assembly. They are fixed to the wall on the top
edges of the opening. Those brackets are usually made of
15 folded sheet metal and by welding. The accuracy of the
parts manufactured in that way is limited. When
assembling the door, it is often necessary to make
adjustments and to re-drill holes, etc. Slideways 5 are
disposed on the sides of the opening for receiving and
20 guiding the edges of the curtain while it is moving up
and down, and for holding it against the pressure of the
wind or of draughts when it is lowered. In Patent
EP-0 717 807, the slideways are fixed at their tops to
the brackets, and at their bottoms to the floor. Certain
25 other members can be fixed to the brackets by welding or
by means of screws and bolts. Such members can serve to
carry bearings (e.g. ball or roller bearings), for
receiving a motor or a rolling-up shaft. It is possible
to fix retention elements to prevent a shaft from falling
30 if one end of it is broken accidentally. Such a
retention member is described in Patent EP-0 586 271.
Elements also exist that serve to re-insert the edges of
the curtain into the slideways if ever they come out
therefrom. Those elements can be fixed to the brackets
35 or to side uprights of the door that contain or that
constitute the slideways (see Patent EP-0 476 788).
Elements also exist that are fixed to the top of the door

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and that serve to re-center the curtain at the start of lowering so as to ensure that the edges of the curtain are placed properly in the slideways.

Other elements can be fixed to the brackets to
5 provide links to a motor unit, to side uprights or to slideways, etc.

An object of the present invention is to provide a multi-function bracket that is simpler, faster, more accurate, and less expensive to make.

10 According to the invention, a bracket is characterized in that, in one-piece, it offers the following functions:

fixing to a wall;
supporting a bearing for a rotary shaft; and
15 fixing to a slideway.

According to another characteristic of the invention, the bracket is characterized in that, in one piece, it further offers the following functions:

protection against a shaft falling;
20 protection against a fallen shaft rotating;
curtain re-centering;
curtain edge re-insertion;
support for accessories; and
fixing of covering.

25 Another object of the present invention is to provide a method of manufacturing a bracket such as above, the method being characterized in that said bracket is obtained in a single operation selected from molding, rotational molding, compression, injection
30 molding, casting, thermoforming, stamping, forging, or machining.

In one application, an object of the invention is to provide a method characterized in that said bracket is obtained by assembling together at least two pieces, at
35 least one of which is obtained in a single operation selected from molding, rotational molding, compression, injection molding, casting, thermoforming, stamping, forging, or machining.

The bracket may be made of a non-metallic material, of a light metal, or of a light alloy.

The invention also provides a goods-handling door including at least one such bracket.

5 Other characteristics and advantages of the invention appear from the following description given by way of non-limiting example and with reference to the accompanying drawings, and makes it possible to understand well how the invention may be implemented.

10 In the drawings:

Figure 1 is a front view of a goods-handling door including conventional-type brackets on either side;

Figure 2 is a perspective view of an embodiment of a fixing bracket device of the invention for a goods-
15 handling door, as seen looking away from the door and showing both the door side of the bracket and its face for fixing to the wall;

Figure 3 is a view of the same device as Figure 1, also showing the door side of the bracket, and further
20 showing its face that faces away from the fixing wall; and

Figures 4 and 5 are views analogous to Figures 2 and 3, showing another embodiment of a bracket of the invention.

25 The bracket 10 comprises a radial branch 12 that is perpendicular to the fixing wall, and a face branch 13 to be applied against the wall and fixable to the wall by bolts passing through two holes 31 and 32.

This bracket is remarkable in that it is multi-
30 function. Thus, it can be provided with all or some of the following elements.

The radial branch is edged by two strips 21, 22 thus forming two L-shaped rims so that, on the side facing towards the door, it is possible to fix a cover that
35 covers the rolling-up shaft, and, on the side facing away from the door, it is possible to fix a cover that covers the motor unit, at least on one side of the door, it

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being possible for the other side to receive an electrical installation.

The radial branch may advantageously be provided with a slot 23 making it possible to install a rolling-up shaft. The end-wall of the slot is provided with reinforcement 24 forming a seat for receiving a ball or roller bearing together with the rolling-up shaft.

Under the seat, a device 25 for preventing the shaft from falling may be provided, e.g. of the type described in Patent EP-0 586 271, which may also be provided with a catch for preventing a broken-shaft from rotating.

In an advantageous embodiment, the bracket is molded with a tab 26 for fixing to a slideway or to an upright by means of two holes 26A, 26B. In the drawings, this tab has its plane parallel to the face plane that is applied against the wall. This configuration is not limiting.

The slideway is not shown and is independent from the present invention. It may have be of any shape and section. It generally has two surfaces parallel to the wall, represented by the lines 27 and 28 in Figure 1, disposed on either side of the rolling-up axis, and more precisely on either side of the bottom edge of the curtain when said curtain is fully raised. After the curtain has been fully raised, and in order to force it to re-engage in the slideway on being lowered, two projections 44 and 45 are provided in register with the walls of the slideway. On being lowered from its top position, the curtain is forced to engage between said projections whose top surfaces form a flare, and it is lowered properly between the slideways. The bracket may also be provided with re-insertion guides 46, 47 projecting on either side of the plane of the curtain, beyond the outer wall of each slideway, as described in particular in Patent EP-0 476 788. Figure 1 shows the position of the guide 47 relative to the tab 26 which is

in register with the outside of the slideway on the side furthest from the wall.

For the purpose of fixing the motor means, inserts may be provided during molding, thereby simplifying
5 installation of the motor means.

When the bracket is used for fold-up or concertina type doors, it is also possible, during molding of the bracket, to provide supports for receiving a tube for suspending the curtain.

10 Figures 4 and 5 are views analogous to Figures 2 and 3, showing a similar bracket, seen from a higher observation point, thereby enabling certain details to be seen more clearly.

The bracket 110 also comprises a radial branch 112
15 that is perpendicular to the fixing wall and a face branch 113 organized to be applied against the wall, and fixable to the wall by bolts passing through suitable holes 131, 132, 133. The bracket 110 is also provided with means for fixing to covering: a strip 122 for fixing
20 a cover on the side of the bracket that faces towards the door, so as to cover the rolling-up shaft, and a strip 121 for fixing a cover on the side facing away from the door, for covering and protecting the motor and other accessories. It is possible for such an outer strip to
25 be omitted from the opposite bracket on the same door, if that bracket does not carry any outer accessories. The radial branch is also provided with a slot 123 for receiving the winding-up shaft, which has a bearing that is received in the circular reinforcement 124 that forms
30 a seat. Under the seat, a retention support 125 is provided for receiving the rolling-up shaft if that end of the shaft which is situated in the ball or roller bearing breaks accidentally. A catch 126 prevents the curtain from falling by preventing the shaft from
35 rotating by co-operating with a similar or equivalent catch provided in the vicinity of the end of the shaft,

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as already described and explained in Patent EP-0 586 271.

The bracket 110 is also provided with slideway fixing means constituted, in this example, by a tab 127
5 provided with holes 128 through which bolts can pass.

The centering projections 144 and 145 disposed on either side of the vertical plane containing the bottom edge of the curtain when said curtain is raised can be recognized in Figures 4 and 5, said bottom edge being at
10 a level higher than the level of the projections. This is described and explained in Patent EP-0 476 788 (claim 9). It is also possible to see the re-insertion guides 146 and 147 whose function is described and explained in that patent.

Other functions may be provided, in particular
15 supports for accessories, such as a pulley for a counterweight strap, a support for a curtain-hanging bar, etc. These functions may be constituted by pieces in relief or by holes disposed at appropriate places, making
20 it possible to use bolts to fix holders or other supports equipped with the desired accessories.

The bracket of the invention is advantageously prefabricated completely in a single operation: it may be molded in any suitable material: metal, e.g. aluminum,
25 plastic, or composite, or else it may be made by stamping. While being very advantageous, these methods are not limiting. In any event, it is very advantageous to be able to deliver a bracket that includes all its functions to the assembly site. Manufacturing by molding
30 guarantees that design dimensions are satisfied accurately, and that overall manufacturing and installation costs are low. It is possible to choose the functions used for a particular type of door. Thus, in practice a single multi-function part made of at least
35 one molded material is used for installing the door. Advantageously, the materials are chosen to be light and non-corrodable. Paint is avoided both during manufacture

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and during maintenance. The part can be stored easily, and delivered to satisfy demand rapidly. The advantages, in particular the cost advantages, are considerable.

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CLAIMS

1/ A multi-function bracket for a goods-handling door, said bracket being characterized in that, in one piece, it offers the following functions:

- 5 fixing (13, 31, 32) to a wall;
 supporting a bearing (24; 124) for a rotary shaft;
and
 fixing (26; 127, 128) to a slideway.

- 10 2/ A bracket according to claim 1, characterized in that, in one piece, it further offers the following functions:
 protection against a shaft falling (25; 125);
 protection against a fallen shaft rotating (126);
 curtain re-centering (44, 45; 144, 145);
15 curtain edge re-insertion (46, 47; 46, 147);
 support for accessories; and
 fixing (21, 22; 121, 122) of covering.

- 20 3/ A bracket according to claim 1 or 2, characterized in that it is obtained in a single operation.

- 4/ A bracket according to any one of claims 1 to 3, characterized in that it is obtained by molding, rotational molding, compression, injection molding,
25 casting, thermoforming, stamping, forging, or machining.

- 5/ A bracket according to claim 1 or 2, characterized in that it is obtained by assembling together at least two pieces, at least one of which is obtained in a single
30 operation.

- 6/ A bracket according to claim 5, characterized in that at least one of the pieces to be assembled together is obtained by molding, rotational molding, compression,
35 injection molding, casting, thermoforming, stamping, forging, or machining.

7/ A bracket according to any preceding claim,
characterized in that it is made essentially of a non-
metallic material.

5 8/ A bracket according to any one of claims 1 to 6,
characterized in that it is made of a light metal or
alloy.

10 9/ A goods-handling door including at least one bracket
according to any preceding claim.

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CLAIMS

1/ A multi-function bracket for a goods-handling door,
said bracket being characterized in that, in one piece,
it offers the following functions:

- 5 fixing (13, 31, 32) to a wall;
 supporting a bearing (24; 124) for a rotary shaft;
and
 fixing (26; 127, 128) to a slideway.

- 10 2/ A bracket according to claim 1, characterized in that,
in one piece, it further offers the following functions:
 protection against a shaft falling (25; 125);
 protection against a fallen shaft rotating (126);
 curtain re-centering (44, 45; 144, 145);
15 curtain edge re-insertion (46, 47; 46, 147);
 support for accessories; and
 fixing (21, 22; 121, 122) of covering.

- 3/ A method of manufacturing a bracket according to claim
20 1 or claim 2, the method being characterized in that said
bracket is obtained in a single operation selected from
molding, rotational molding, compression, injection
molding, casting, thermoforming, stamping, forging, or
machining.

- 25 4/ A method of manufacturing a bracket according to claim
1 or claim 2, the method being characterized in that the
bracket is made by assembling together at least two
pieces, at least one of which is obtained in a single
30 operation selected from molding, rotational molding,
compression, injection molding, casting, thermoforming,
stamping, forging, or machining.

- 5/ A bracket according to claim 1 or 2, characterized in
35 that it is made essentially of a non-metallic material.

6/ A bracket according to claim 1 or 2, characterized in that it is made of a light metal or alloy.

7/ A goods-handling door including at least one bracket
5 according to any one of claims 1, 2, 5, and 6 or obtained by the method according to claim 3 or 4.

A B S T R A C T

A MULTI-FUNCTION LINK BRACKET FOR A GOODS-HANDLING DOOR

5 In a goods-handling door, there is a bracket on
either side of its top portion. The brackets serve to
support the shaft for rolling up the door. The invention
relates to a one-piece (molded) bracket offering various
functions: guiding the curtain, fixing various
10 accessories, thereby ensuring structural precision and
easy maintenance.

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35 Translation of the title and the abstract as published by the PCT Authorities,
possibly after making changes, ex officio, e.g. under PCT Rules 37.2, 38.2, and/or
48.3.

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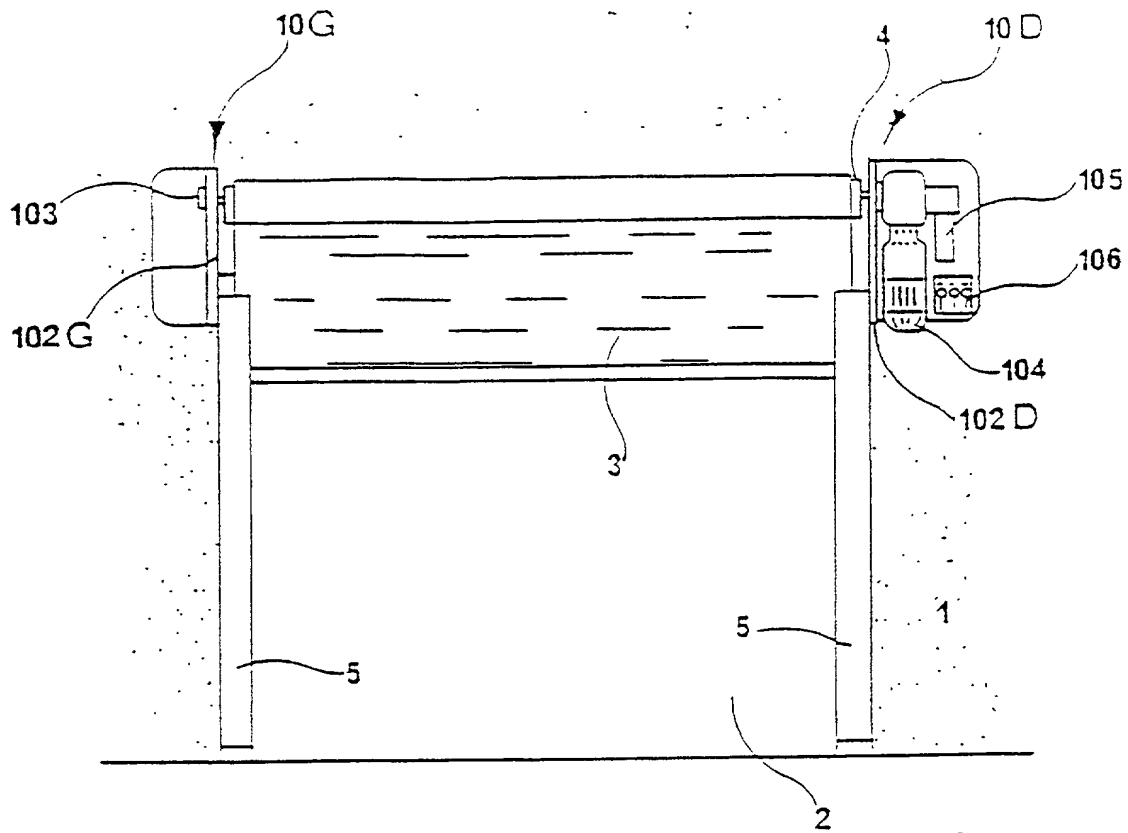
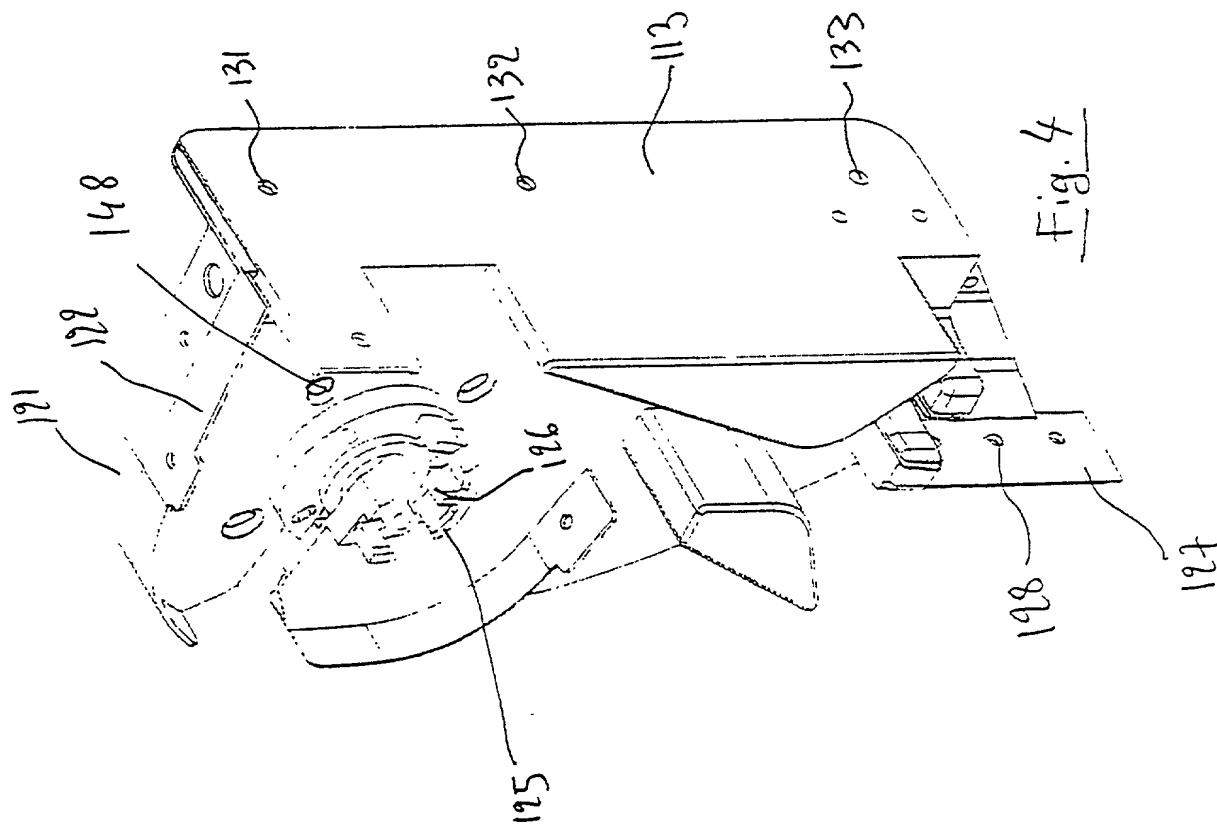
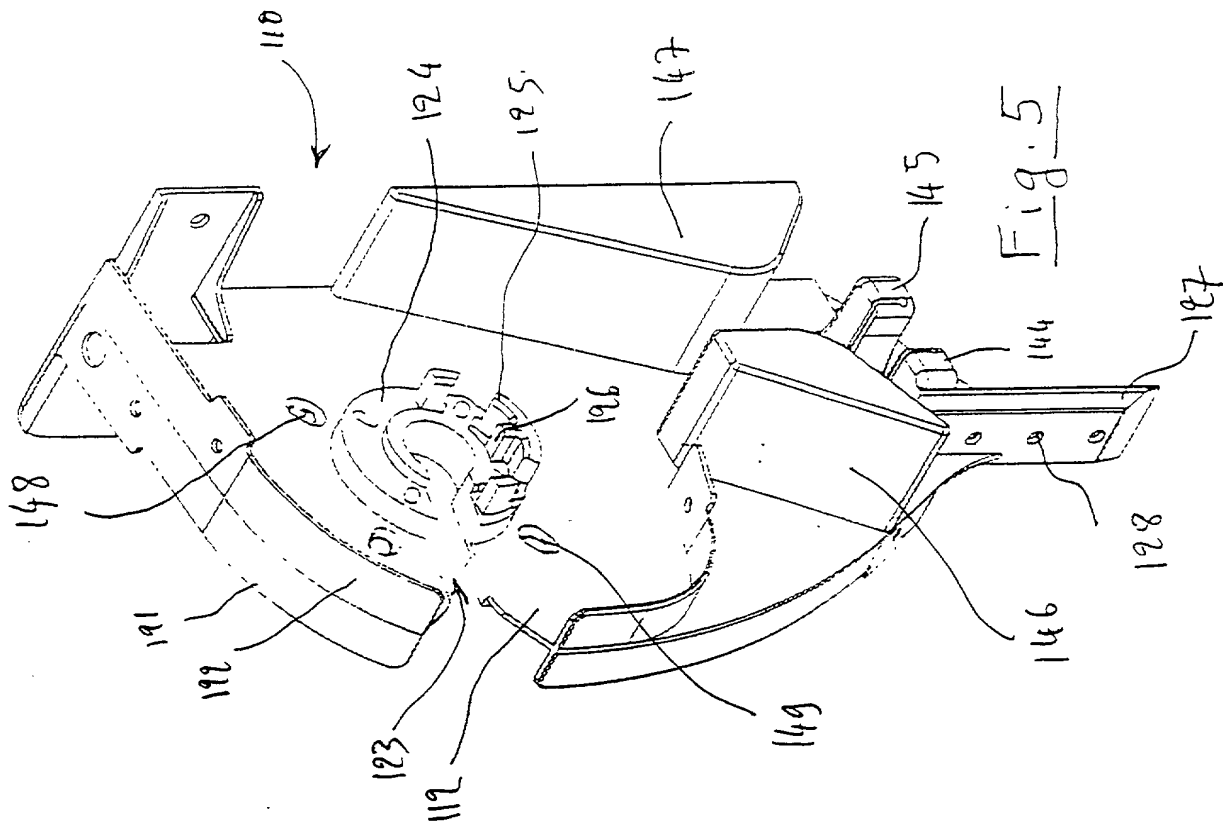


FIG.1





Declaration and Power of Attorney for Patent Application

Déclaration et Pouvoirs pour Demande de Brevet

French Language Declaration

En tant que l'inventeur nommé ci-après, je déclare par le présent acte que:

Mon domicile, mon adresse postale et ma nationalité sont ceux figurant ci-dessous à côté de mon nom.

Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co-inventeurs originaux (si plusieurs noms sont mentionnés ci-dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention intitulée

CONSOLE DE LIAISON MULTIFONCTIONNELLE
POUR PORTE DE MANUTENTION

et dont la description est fournie ci-joint à moins que la case suivante n'ait été cochée:

☒ a été déposée le 22 juin 1999 *
sous le numéro de demande des Etats-Unis ou le numéro de demande international PCT

PCT/FR99/01486 et modifiée le
16 juin 2000 (le cas échéant).

* Date de dépôt internationale

Je déclare par le présent acte avoir passé en revue et compris le contenu de la description ci-dessus, revendications comprises, telles que modifiées par toute modification dont il aura été fait référence ci-dessus.

Je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

A MULTI-FUNCTION LINK BRACKET FOR
A GOODS-HANDLING DOOR

the specification of which is attached hereto unless the following box is checked:

☒ was filed on June 22, 1999 *
as United States Application Number or PCT
International Application Number
PCT/FR99/01486 and was amended on
June 16, 2000 (if applicable).

* Internationale filing date.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

French Language Declaration

Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, § 119(a)-(d) ou § 365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, § 365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous et, en cochant la case, j'ai aussi indiqué ci-dessous toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT ayant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée.

Prior foreign application(s)
Demande(s) de brevet antérieure(s)

FR-98/07890 France
(Number) (Country)
(Numéro) (Pays)

(Number) (Country)
(Numéro) (Pays)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 119(e) du Code des Etats-Unis, de toute demande de brevet provisoire effectuée aux Etats-Unis et figurant ci-dessous.

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 120 du Code des Etats-Unis, de toute demande de brevet effectuée aux Etats-Unis, ou en vertu du Titre 35, § 365(c) du même Code, de toute demande internationale PCT désignant les Etats-Unis et figurant ci-dessous et, dans la mesure où l'objet de chacune des revendications de cette demande de brevet n'est pas divulgué dans la demande antérieure américaine ou internationale PCT, en vertu des dispositions du premier paragraphe du Titre 35, § 112 du Code des Etats-Unis, je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations, dont j'ai pu disposer entre la date de dépôt de la demande antérieure et la date de dépôt de la demande nationale ou internationale PCT de la présente demande:

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

Je déclare par le présent acte que toute déclaration ci-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique; et de plus, que toutes ces déclarations ont été formulées en sachant que toute fausse déclaration volontaire ou son équivalent est passible d'une amende ou d'une incarcération, ou des deux, en vertu de la Section 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou du brevet délivré à partir de celle-ci.

I hereby claim foreign priority under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below, and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Not Claimed
Droit de priorité non revendiqué

June 23, 1998
(Day/Month/Year Filed)
(Jour/Mois/Année de dépôt)

(Day/Month/Year Filed)
(Jour/Mois/Année de dépôt)

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Status)(patented, pending, abandoned)
(Statut)(breveté, en cours d'examen, abandonné)

(Status)(patented, pending, abandoned)
(Statut)(breveté, en cours d'examen, abandonné)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

French Language Declaration

POUVOIRS: En tant que l'inventeur cité, je désigne par la présente l'(les) avocat(s) et/ou agent(s) suivant(s) pour qu'ils poursuive(nt) la procédure de cette demande de brevet et traite(nt) toute affaire s'y rapportant avec l'Office des brevets et des marques: (mentionner le nom et le numéro d'enregistrement).

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: (list name and registration number)

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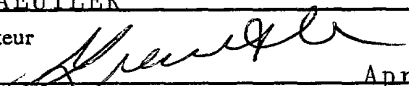
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(Fournir les mêmes renseignements et la signature de tout co-inventeur supplémentaire.)

(Supply similar information and signature for third and subsequent joint inventors.)